

**Notice of Allowability**

Application No.

10/578,175

Applicant(s)

SARRUT, NICOLAS

Examiner

MEENAKSHI S. SAHU

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/4/2006
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 7/25/2006
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

  
JACK BERMAN  
PRIMARY EXAMINER

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claim 1 allowed.
2. The following is a statement of reasons for the indication of allowable subject matter.

**Regarding claim 1**, prior art fails to disclose a device with a micro-fluidic network and an electro-nebulization spray nose where the electrospray nozzle structure has at least one thin planar point with a capillary slot connected to an end point through which the liquid is sprayed. This is a technique for ionizing a sample by electrospray and combines microfluidics with mass spectrometry and is particularly useful in the field of proteomics (identifying proteins). The liquid leaves the microfluidic chip and is nebulized (the droplets then enter the mass spectrometer for analysis), and it forms an interface between the leaving liquid and the ambient gas in the shape of a conical volume called the Taylor cone. The Taylor cone forms a dead volume for the leaving liquid and this volume needs to be minimized. The nozzle disclosed in the present application is designed to minimize the Taylor cone.

Prior art by Zimmerman (US 6,481,648) discloses a spray tip for the microfluidic chip but fails to disclose an electrospray nozzle structure with a capillary slot and a thin planar point connected to an end point.

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Application US 2007/0128078 by the same assignee was checked for double patenting issues. Claim 1 of the present application does not have the same meaning and scope as the claims from US 2007/0128078 since this application deals mainly with the coplanar microfluidic network and electrospray nozzle while the present application deals with a microfluidic system with a specific electrospray nozzle designed to minimize the Taylor cone.

3. Claims 2 to 9 are allowed by virtue of their dependence on claim 1.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEENAKSHI S. SAHU whose telephone number is (571)270-3101. The examiner can normally be reached on Monday - Friday 8AM - 5PM est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meenakshi S Sahu/  
Examiner, Art Unit 2881

  
JACK BERMAN  
PRIMARY EXAMINER